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IN THE CLAIMS

Please amend claim 1, 20, 28, and 32 as follows.

Please add new claims 61-73 as follows.

1. (currently amended) A color wheel comprising:

a set of segments, one of which is constructed such that

when intersected by a first circle having a first radius and centered as the same center of the color wheel, a first arc of the first circle within said segment occupies a first percentage of the circumference of the first circle;

when intersected by a second circle having a second radius and centered as the same center of the color wheel, a second arc of the second circle within said segment occupies a second percentage of the circumference of the second circle; and

wherein the first and second percentage are different.

~~at least one segment that occupies, for a given radius, a percentage of the circumference of the wheel at that radius, which percentage varies continuously or in multiple steps from a radially inward point to a radially outer point on the wheel.~~

2. (original) The color wheel of claim 1, wherein the color wheel further comprises colored segments which comprise one red, one green and one blue segment.

3. (original) The color wheel of claim 2, wherein the at least one segment is a white segment.

4. (original) The color wheel of claim 2, wherein the colored segments further comprise a yellow, cyan and/or magenta segment.

5. (original) The color wheel of claim 1, wherein the at least one segment is a clear glass or polymer.

6. (original) The color wheel of claim 1, wherein the at least one segment comprises a transparent or translucent material or no material within that segment of the wheel.

7. (original) The color wheel of claim 1, wherein the at least one segment does not extend completely across the width of the color wheel in the radial direction of the wheel.

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8. (original) The color wheel of claim 1, wherein the at least one segment provides higher brightness for each frame when the wheel is rotated in a projection system.
9. (original) The color wheel of claim 1, wherein the at least one segment provides increased color saturation for each frame when the wheel is rotated in a projection system.
10. (original) The color wheel of claim 1, further comprising at least three different filter segments in addition to the at least one segment.
11. (original) The color wheel of claim 10, wherein the at least three different filter segments occupy, for a given radius, a percentage of the circumference of the wheel at that radius, which percentage remains the same from a radially inward point to a radially outer point on the wheel.
12. (original) The color wheel of claim 10, wherein light passing through the at least three different filter segments is centered around a different wavelength for each segment.
13. (original) The color wheel of claim 10, wherein the at least one segment is at least three segments having a different luminosity and color saturation than an adjacent one of said at least three different filter segments.
14. (original) The color wheel of claim 13, wherein the at least three segments have a higher luminosity than the at last three different filter segments.
15. (original) The color wheel of claim 14, wherein the at least three segments are interspersed between the at least three different filter segments.
16. (original) The color wheel of claim 15, wherein the at least three segments are white or yellow segments.
17. (original) The color wheel of claim 1, wherein the percentage increases from a radial inward point to a radial outer point.

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18. (original) The color wheel of claim 17, wherein the percentage increases in a stepwise manner from a radially outer point to a radially inward point.
19. (original) The color wheel of claim 17, wherein the percentage increases continuously for the width of the at least one segment in the radial direction of the wheel.
20. (currently amended) A color wheel having a plurality of filter segments adjacent to each other around the circumference of the wheel, wherein at least one of the transitions from one filter segment to the next is curved-or-stepped; and wherein at least another one of the transitions immediately following said one transition is curved but in opposite direction to said one transition.
21. (original) The color wheel of claim 20, wherein the plurality of filter segments comprise at least three color segments and at least one white segment.
22. (original) The color wheel of claim 21, wherein the at least three color segments comprise red, green and blue.
23. (original) The color wheel of claim 20, wherein the plurality of filter segments comprise at least three color segments and at least one segment for providing white, yellow or orange light.
24. (original) The color wheel of claim 23, wherein one or more of the filter segments comprises an edge defining a transition to an adjacent filter segment that does not lie on a radius of the wheel.
25. (original) The color wheel of claim 24, wherein the at least one segment for providing white, yellow or orange light comprises edges facing adjacent filter segments that are curved or stepped.
26. (original) The color wheel of claim 25, wherein the at least one segment for providing white, yellow or orange light comprises at least three white segments disposed between color segments.
27. (original) The color wheel of claim 21, wherein one of the at least three color segments is not disposed adjacent the at least one white segment and has edges abutting adjacent filter segments that do not lie along the radius of the color wheel.

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28. (currently amended) A color wheel having a plurality of filter segments adjacent to each other around the circumference of the wheel, wherein at least one of the segments is a higher brightness segment than the others and has sides facing adjacent filter segments; wherein said sides that do not lie on are not along the radius radiuses of the wheel; and wherein said adjacent segments are immediately bordered.

29. (original) The color wheel of claim 28, wherein the plurality of filter segments comprise at least three color segments and the at least one higher brightness segment is a white segment.

30. (original) The color wheel of claim 29, wherein the at least three color segments comprise red, green and blue.

31. (original) The color wheel of claim 28, wherein the plurality of filter segments comprise at least three color segments and the at least one higher brightness segment is one or more segments for providing white, yellow or orange light.

32. (currently amended) The color wheel of claim 31, wherein one or more of the color segments ~~comprises~~ comprise an edge defining a transition to an adjacent filter segment that does not lie on a radius of the wheel.

33. (original) The color wheel of claim 32, wherein the at least one segment for providing white, yellow or orange light comprises edges facing adjacent filter segments that are curved or stepped.

34. (original) The color wheel of claim 33, wherein the at least one segment for providing white, yellow or orange light comprises at least three white segments disposed between color segments.

35. (original) The color wheel of claim 29, wherein one of the at least three color segments is not disposed adjacent the at least one white segment and has edges abutting adjacent filter segments that do not lie along the radius of the color wheel.

36. (original) A projection system comprising:
a light source;

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the color wheel of claim 1;
a spatial light modulator; and
projection optics.

37. (original) The projection system of claim 36, wherein the color wheel further comprises colored segments which comprise one red, one green and one blue segment.
38. (original) The projection system of claim 37, wherein the at least one segment is a white segment.
39. (original) The projection system of claim 37, wherein the colored segments further comprise a yellow, cyan and/or magenta segment.
40. (original) The projection system of claim 36, wherein the at least one segment is a clear glass or polymer.
41. (original) The projection system of claim 36, wherein the at least one segment comprises a transparent or translucent material or no material within that segment of the wheel.
42. (original) The projection system of claim 36, wherein the at least one segment does not extend completely across the width of the color wheel in the radial direction of the wheel.
43. (original) The projection system of claim 36, wherein the at least one segment provides higher brightness for each frame when the wheel is rotated in a projection system.
44. (original) The projection system of claim 36, wherein the at least one segment provides increased color saturation for each frame when the wheel is rotated in a projection system.
45. (original) The projection system of claim 36, further comprising at least three different filter segments in addition to the at least one segment.
46. (original) The projection system of claim 45, wherein the at least three different filter segments occupy, for a given radius, a percentage of the circumference of the wheel at that radius, which

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percentage remains the same from a radially inward point to a radially outer point on the wheel.

47. (original) The projection system of claim 45, wherein light passing through the at least three different filter segments is centered around a different wavelength for each segment.

48. (original) The projection system of claim 45, wherein the at least one segment is at least three segments having a different luminosity and color saturation than an adjacent one of said at least three different filter segments.

49. (original) The projection system of claim 48, wherein the at least three segments have a higher luminosity than the at least three different filter segments.

50. (original) The projection system of claim 49, wherein the at least three segments are interspersed between the at least three different filter segments.

51. (original) The projection system of claim 50, wherein the at least three segments are white or yellow segments.

52. (original) The projection system of claim 36, wherein the percentage increases from a radial inward point to a radial outer point.

53. (original) The projection system of claim 52, wherein the percentage increases in a stepwise manner from a radially outer point to a radially inward point.

54. (original) The projection system of claim 52, wherein the percentage increases continuously for the width of the at least one segment in the radial direction of the wheel.

55. (original) The projection system of claim 36, wherein the spatial light modulator is a micromirror array.

56. (original) The projection system of claim 36, wherein the light source is a white light source.

57. (original) The projection system of claim 56, wherein the white light source is a halogen lamp, a

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xenon arc lamp, a UHP arc lamp or a white light laser.

58. (original) The projection system of claim 36, wherein the projection system further comprises a target.

59. (original) The projection system of claim 58, wherein the projection system is a front or rear screen television or computer monitor.

60. (original) The projection system of claim 36, further comprising a housing and a knob or button for mechanically moving the color wheel so as to increase or decrease brightness.

61. (new) A projector, comprising:
a light source producing a light beam;
a color wheel comprising a set of segments, depending upon the relative positions of the color wheel to the light beam, the percentage of time that a particular one of the segments remains in the light beam when the wheel is spinning, changes relative to the other segments;
a spatial light modulator for modulating the light beam passing through the color wheel; and
a display target on which the modulated light beam is projected so as to form a desired image.

62. (new) The projector of claim 61, wherein the segments comprise a set of primary colors.

63. (new) The projector of claim 62, wherein the primary colors are red, green, and blue.

64. (new) The projector of claim 62, wherein the primary colors are yellow, cyan, and magenta.

65. (new) The projector of claim 61, wherein one of the segment is clear to the light beam.

66. (new) The projector of claim 61, wherein the boundaries of the adjacent segments are curved.

67. (new) The projector of claim 66, wherein the neighboring boundaries are curved in opposite directions.

68. (new) The projector of claim 61, wherein one of the boundaries of the adjacent segments extends

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stepwise.

69. (new) A color wheel, comprising:

a set of segments defined by a set of curved segment boundaries, wherein the adjacent segment boundaries are curved in opposite directions.

70. (new) The color wheel of claim 69, wherein the segments comprise a set of primary colors of red, green, and blue.

71. (new) The color wheel of claim 69, wherein the segments comprise a set of primary colors of yellow, magenta, and cyan.

72. (new) The color wheel of claim 69, wherein one of the segment is clear to white light.

73. (new) A color wheel, comprising:

first and second segments that are bordered at a straight border line, wherein said border line or an extension of said border line does not pass through a center of the color wheel.